

Company: Shoof Technologies, Inc.

Evaluation of: Strix Wireless Tag

To: FCC CFR 47 Part 1.1310

Report No.: SHOO03-U8 Rev A FCC MPE

**MPE/RF EXPOSURE TEST REPORT**



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FROM



Evaluation of: Shoof Technologies, Inc. Strix Wireless Tag

To: FCC CFR 47 Part 1.1310

Report Serial No.: SHOO03-U8 Rev A FCC MPE

This report supersedes: NONE

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Product Function; Wireless Tag

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## **This Test Report is Issued Under the Authority of:**

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## 1. MAXIMUM PERMISSABLE EXPOSURE

### Calculations for Maximum Permissible Exposure Levels

$$\text{Power Density} = P_d \text{ (mW/cm}^2\text{)} = \text{EIRP}/(4*\pi*d^2)$$

$$\text{EIRP} = P * G$$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

$$\text{Numeric Gain} = 10 \wedge (\text{G (dBi)}/10)$$

The calculations in the table below use the highest measured conducted power values together with the antenna gain specified for the EUT. These calculations represent worst case in terms of the exposure levels.

### Specification - Maximum Permissible Exposure Limits.

The Limit is defined in Table 1 of FCC §1.1310.

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Power Density (mW/cm <sup>2</sup> ) @ 20cm	Power Density Limit (mW/cm <sup>2</sup> )	Min Calculated safe distance for Limit (cm)
434	-5.00	0.32	-4.22	0.38	0.000	0.28933	0.18
900 FHSS	3.00	2.00	26.76	474.24	0.188	0.6	11.20
2.4 BLE	4.00	2.51	15.21	33.19	0.017	1	2.58
2.4 DTS	4.00	2.51	16.88	48.75	0.024	1	3.12
2.4 FHSS	4.00	2.51	20.56	113.76	0.057	1	4.77

Note: for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.

### Worst Case Simultaneous Operation

Assessment for simultaneous operation: 434 MHz, 900 MHz FHSS, 2.4GHz BLE, 2.4GHz FHSS:

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance for Summation (cm)	Power Density Limit (mW/cm <sup>2</sup> ) @ 20cm E <sub>ref</sub>	Calculated Power Density (mW/cm <sup>2</sup> ) E <sub>i</sub>	E <sub>i</sub> /E <sub>ref</sub> @ 20 cm
434	-5.00	0.32	-4.22	0.38	20	0.28933	0.00	0.00
900 FHSS	3.00	2.00	26.76	474.24	20	0.6	0.19	0.32
2400.0 - 2483.5 BLE	4.00	2.51	15.21	33.19	20	1	0.02	0.02
2400.0 - 2483.5 FHSS	4.00	2.51	20.56	113.76	20	1	0.06	0.06
<b>Summation E<sub>i</sub>/E<sub>ref</sub> @ 20 cm distance:</b>								<b>0.40</b>

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